

REMARKS

Claims 1-24 are pending. Applicants have carefully considered the Office Action dated December 5, 2006 ("Office Action") in this Application. Applicants present the above amendments and following remarks in a sincere attempt to place this Application in condition for allowance. Applicants have amended Claims 1, 9, and 14-17 in this Response. Applicants respectfully request reconsideration and allowance in light of the above amendments and the following remarks.

Applicants wish to thank the Examiner for the courtesy of a telephone interview conducted on March 2, 2007. During the interview, the above amendments were discussed.

The Drawings stand objected to as allegedly failing to comply with 37 CFR 1.84(p)(5), "because they include the following reference sign(s) not mentioned in the description: (a) POWER DATA OUTPUT 660, in FIG. 6." Office Action, Page 2. Applicants have amended the Specification in this Response to correct a typographical error and to recite, in relevant part: "The power modeler 650 can then generate an operational model of the power consumption as the macro ~~operate~~ operates as a Power Data Output [[360]] 660." Applicants therefore respectfully request that the objection to the drawings be withdrawn.

The Specification stands objected to because of various identified informalities. *See* Office Action, Pages 2-3. Applicants have amended the Specification in this Response to correct the identified, and other, informalities. Accordingly, Applicants respectfully request that the objection to the Specification be withdrawn.

Claims 14-16 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as the invention *See* Office Action, Page 3. In particular, the Examiner rejected Claims 14-16 for reciting the limitation "The method". *See* Office Action, Page 3. Applicants have amended Claims

14-16 in this Response to recite, in relevant part, “The apparatus”. Applicants therefore respectfully request that the rejections of Claims 14-16 under 35 U.S.C. §112, second paragraph, be withdrawn.

Claims 1-24 stand rejected under 35 U.S.C. §101 as allegedly directed to non-statutory subject matter. *See* Office Action, Page 4. Specifically, the Examiner stated that, “Claims 1-24 appear to be directed merely to the manipulation of an abstract idea of approximating power consumption of a circuit with plurality of local clock buffers (LCBs) without resulting in a practical application producing a concrete, useful, and tangible result.” Office Action, Page 4. Applicants respectfully traverse these rejections.

Nevertheless, Applicants have amended Claims 1, 9, and 17 to recite, in relevant part “storing, for subsequent use, an operational model based on the generated power consumption data.” Applicants respectfully submit that these amendments thus overcome the rejections under 35 U.S.C. §101, as described above. Dependent Claims 2-8, 10-16, and 18-24 depend on and further limit Claims 1, 9, and 17, respectively. As such, Applicants respectfully submit that the Dependent Claims also overcome the rejections under 35 U.S.C. §101. Applicants therefore respectfully request that the rejections of Claims 1-24 under 35 U.S.C. §101 be withdrawn.

Claims 1-24 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent Publication No. 2004/0186703 by Radjassamy (“Radjassamy”) in view of U.S. Patent No. 5,481,209 by Lim et al. (“Lim”). Applicants respectfully traverse these rejections.

The obligations of the Examiner in support of obviousness rejections are clearly defined at M.P.E.P. §2142: “The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness” and “If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” M.P.E.P. §2143 sets out the three basic criteria that a patent examiner must satisfy to establish a *prima facie* case of obviousness:

1. some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
2. a reasonable expectation of success; and
3. the teaching or suggestion of all the claim limitations by the prior art reference (or references when combined).

In the absence of a sufficient *prima facie* showing of obviousness by the Examiner (assuming there are no objections or other grounds for rejection), an applicant is entitled to grant of a patent. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443 (Fed. Cir. 1992). Thus, in order to support an obviousness rejection, the Examiner is obliged to produce evidence compelling a conclusion that each of the three aforementioned basic criteria has been met.

In this case, Applicants respectfully submit that the Examiner has failed to produce evidence compelling a conclusion that the criteria required for a *prima facie* showing of obviousness has been met. In particular, the Examiner admits that “Radjassamy fails to expressly disclose wherein the energy model data further comprises extrapolating energy data by increasing or decreasing the number of active LCBs,” as recited in independent Claims 1, 9, and 17. Office Action, Page 5.

To supply this admittedly missing element, the Examiner offers Lim, which allegedly discloses “an apparatus and method for improved clock distribution and control in an integrated circuit having the ability to selectively inhibit clock signals at the local buffer 46.” Office Action, Page 5. Moreover, the Examiner asserts that “Using inhibit 52 to inhibit the clock at selected locations of the integrated circuit 10 allows for reduction of power dissipation.” Office Action, Page 5 (*citing* Lim, col. 4, lines 62-67). Further, the Examiner states, “It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Radjassamy to incorporate the teachings of Lim et al. to obtain the invention as specified in claim 1 because inhibiting locally buffered clock signals at selected locations results in reduced estimation

of power dissipation as suggested by Lim et al.” Office Action, Page 6. Applicants respectfully disagree with the Examiner’s assertion.

Specifically, Applicants respectfully note that the examiner offers Lim as showing “inhibiting the clock at selected locations” to allow for “reduction of power dissipation.” But the Examiner cannot show anywhere in Lim where Lim even hints at “reduced *estimation* of power dissipation.” Instead, Lim teaches using LCBs to reduce actual power dissipation, not an estimated power dissipation, and certainly not “extrapolating energy data by increasing or decreasing the number of active LCBs,” as recited in the Claims. Lim expressly teaches, “Inhibiting the clock at selected locations of the integrated circuit allows for *reduction of power dissipation*, and specific logical operations involving only part of the integrated circuit chip logic.” Lim, col. 3, lines 19-22. Nowhere does Lim come anywhere close to teaching, “extrapolating energy data by increasing or decreasing the number of active LCBs,” as recited in the Claims.

Additionally, there is no motivation to combine the Radjassamy system with Lim, as Radjassamy teaches away from “extrapolating energy data by increasing or decreasing the number of active LCBs,” as recited in the Claims. Instead, Radjassamy teaches a power consumption correction factor called a “reduction factor”:

The power consumption may be estimated by way of one or more equations that include a raw power factor and a reduction factor for each power consumption component that is representative of a probabilistic activity profile associated with the power consumption component. . . [T]he probabilistic activity profile may comprise at least one activity factor that may take the form of a correction coefficient that is based on either the power consumption component’s structural constraints, functional constraints, design constraints, process constraints, or some combination thereof. Accordingly, the reduction factor generator 218 employs one or more power consumption component’s restraints to arrive at an activity factor profile for the component that represents the probabilistic reality of the way its circuitry is designed to operate under normal conditions.

Radjassamy, Paragraph [0025].

As for latch arrays, for example, Radjassamy applies this reduction factor as follows: “the reduction factor may be based on a probabilistic activity profile comprising activity factors that characterize the particular component constraints such as the particular inputs and assertions of the latch array.” Radjassamy, Paragraph [0076.] This is clearly a very different approach than “extrapolating energy data by increasing or decreasing the number of active LCBs,” as recited in the Claims. Therefore, even if Lim did teach this element, which it does not, Radjassamy clearly rejects it in favor of another approach. For at least this reason, there is no motivation to combine Radjassamy with Lim, and therefore the Examiner’s purported *prima facie* case must fail.

Furthermore, neither does Lim teach, disclose, or suggest, “storing, for subsequent use, an operational model based on the generated power consumption data,” as recited in amended Claims 1, 9, and 17. Therefore, for at least the above reasons, Applicants respectfully submit that the Examiner’s proposed combination fails to teach each and every element as recited in the Claims, and fails for lack of motivation. Applicants therefore also respectfully submit that amended Claims 1, 9, and 17, and their dependent Claims, are therefore allowable over the cited art and the remaining art of record, in any combination.

Applicants have now addressed all of the Claim objections and rejections cited in the Office Action. In view of the amendments to the Claims and Applicants’ remarks, Applicants believe that pending Claims 1-24 are in condition for allowance, and respectfully request allowance of Claims 1-24.

Applicants believe no additional fees are due in this Response. In the event that any other fees are due, Applicants hereby authorize the Commissioner to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 09-0447 of IBM Corporation.

Applicants believe that the present Response contains a complete response to the issues raised in the Office Action. Applicants respectfully request full reconsideration. If the Examiner should have any questions, comments or suggestions, the undersigned attorney earnestly requests a telephone conference. In particular, should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, Applicants invite the Examiner to telephone the undersigned at the number listed below.

Respectfully submitted,

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